

REMARKS

The Office Action mailed January 10, 2008 has been carefully considered.

Reconsideration in view of the following remarks is respectfully requested.

Claim Status and Amendment of the Claims

Claims 1-4, 9, 13, 21-24, 26-29, 45-48, 50, 52, 54, 55, 57-60, and 62-71 are currently pending.

No claims stand allowed.

Claims 5-8, 10-12, 14-20, 25, 30-44, 49, 51, 56, 61, and 72-74 were previously cancelled, without prejudice or disclaimer of the subject matter contained therein.

The First 35 U.S.C. § 103 Rejection

Claims 1, 2, 13, 21, 26, 45, 54, 55, 58-60, and 63-71 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Perkins¹ in view of Inoue '819² and further in view of Martin et al.³, among which claims 1, 21, 26, and 45 are independent claims. This rejection is respectfully traversed.

According to the Manual of Patent Examining Procedure (M.P.E.P.),

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable

¹ U.S. Patent No. 5,159,592 to Perkins.

² U.S. Patent No. 6,891,819 to Inoue et al.

³ U.S. Patent No. 6,614,788 to Martin et al.

expectation of success must both be found in the prior art, not in the applicant's disclosure.⁴

Claim 1

Claim 1 recites:

A network access server (NAS), the NAS comprising:
an HGS identifier for identifying a home gateway server (HGS) of an Internet service provider (ISP), the HGS associated with a home domain to which a request for an IP address is to be transmitted, the ISP and a Network Access Provider (NAP) of the NAS being separate, wherein the HGS identifier is responsive to log-in information provided by a user;
an IP address requester for requesting an IP address from the HGS, the HGS maintaining a pool of IP addresses for allocation to authorized users, the IP address requester configured to transmit the user's authentication information to the HGS with the request for an IP address from the HGS;
an IP address relayer for receiving an IP address allocated to the user from the HGS and for relaying the allocated IP address to the user; and
a memory coupled with the IP address requester and the IP address relayer, the memory storing an association between an identification of the user and the IP address allocated to the user, the NAS providing a user with access and connection to a global data communications internetwork.

The Examiner states,

... Perkins discloses a network access server (NAS) providing a connection to a user in a data communications network, said NAS being capable of communicating with a home gateway server (HGS), said NAS comprising:
an HGS identifier (pseudo-network number) identifying an HGS to which the request for an IP address is to be transmitted wherein the home domain is distinct from a domain associated with said NAS (col. 8, lines 45-68);
an IP address requester for requesting an IP address from the HGS (global Gateway or GW) on behalf of a user, without using a tunneling protocol, the HGS maintaining a pool of IP addresses for allocation to authorized users associated with the NAS (local Gateway or GW) (e.g. abstract; Figures 2-5; col. 5, lines 50-65);
an IP address relayer for receiving an IP address allocated to the user from the HGS and for relaying the allocated IP address to the user (mobile unit) (e.g. abstract; Figures 2-5; col. 5, lines 50-65); and
a memory coupled with said IP address requester and said IP address relayer, said memory storing association between an identification of the user and the IP address allocated to the user (col. 5, lines 15-27).

Perkins does not disclose the HGS identifier is responsive to log-in information provided by the user. In analogous art '819 discloses another network access server

⁴ M.P.E.P § 2143.

providing a user with access and connection to the internet wherein the HGS identifier (i.e. home agent 5) is responsive to log-in information provided by the user (i.e. mobile computer 2) (i.e. the user supplies "log-in information" such as the home agent identifier, which is then transmitted to the home agent server, and then authentication information is exchanged to authenticate the user) (col. 8, lines 44-49). '819 further discloses the HGS of an ISP (the Office construes the ISP as the home network 1 a, since the network provides internet service to the users, the Home Agent 5 being the HGS of the ISP), and the Network access provider being separate from the ISP (i.e. GW1 of the other network is separate from the home network) (Figure 20). It would have been obvious to one of ordinary skill in the art to combine the teaching of '819 with Perkins in order to allow the system of Perkins to be compatible with other networks, thereby increasing the range of the system as well as the customer base of which it can service, as well as authenticating an individual user who is operating the mobile computer when the mobile computer is connected to a visited site network and transmits a current location registration message to the home agent as supported by '819 (col. 2, lines 55-60). Perkins in view of '819 do not specifically disclose the log-in information is transmitted with the request for an IP address, rather a challenge is sent to the mobile agent, and then a response with the log-in information is transmitted back to the server. In analogous art, Martin discloses another system for allocating IP addresses to users which utilizes a RADIUS server to receive a request for an IP address, with login information, which then authenticates the user, and if the user is authenticated, allocating an IP address for said user (Figure 1213; col. 7, lines 45-65). It would have been obvious to one of ordinary skill in the art to combine Martin with Perkins and '819 in order to reduce the number of messages sent in the system of '819, thereby reducing congestion on the network (i.e. instead of sending four separate messages, IP request, challenge, response, IP allocation, sending only two messages, IP request with password information, response).⁵

The Applicants respectfully disagree for the reasons set forth below.

In the Response dated December 3, 2007, the Applicants amended independent claims 1, 21, and 26 have to move language of the respective claim preambles to the claim elements. In the same Response, independent claims 1, 21, and 26 were amended to clarify that the HGS identifier is for identifying a home gateway server (HGS) of an Internet service provider (ISP), and that the ISP and a Network Access Provider (NAP) of the NAS are separate. Whereas the

⁵ Office Action dated January 10, 2008, ¶ 2.

cited art of record says nothing about the ISP of the HGS and the NAP of the NAS being separate.

In response to the above argument by the Applicants, the Examiner states:

Applicant argues, in substance, that the rejection does not disclose an ISP being separate from a network access provider of a network access server. The Examiner disagrees. Applicant is invited to review the rejection above where the Examiner has detailed how the Home Agent, the Home network, and the gateway of the other network of '819 clearly demonstrate that the rejection clearly shows the claimed limitations.⁶

The Applicants respectfully submit the cited references do not teach or suggest the limitations of Claim 1. In support of the Examiner's rejection of Claim 1, the Examiner contends Inoue '819 discloses the HGS of an ISP and the NAP being separate from the ISP. The Examiner equates the home network 1a of Inoue '819 with the ISP of claim 1, allegedly "since the network provides internet service to the users."⁷ The Applicants respectfully submit the Examiner's attempt to equate home network 1a of Inoue '819 with the ISP of claim 1 is improper. The Microsoft Computer Dictionary, fifth edition, 2002, defines an ISP as:

n. Acronym for Internet service provider. A business that supplies Internet connectivity services to individuals, businesses, and other organizations. Some ISPs are large national or multinational corporations that offer access in many locations, while others are limited to a single city or region. Also called: access provider, service provider.⁸

Inoue '819 describes the figure which depicts home network 1a as merely depicting multiple networks being interconnected through the Internet:

In FIG. 1, a home network 1a, a first other section network 1b and a second other section network 1c are inter-connected through the Internet 6, while a mobile computer (MN) 2 and its correspondent host (CH) 3 are connected within these networks, or connected to the Internet 6 as external nodes.⁹

⁶ Office Action at ¶ 14.

⁷ Office Action at p. 3.

⁸ Microsoft Computer Dictionary, fifth edition, 2002, at p. 291. (emphasis in original)

⁹ '819 at col. 7 ll. 10-14.

The Applicants submit merely showing apparently *ad hoc* interconnected networks does not equate to an ISP. Nowhere do the cited references suggest network 1a is an ISP as understood to those skilled in the art.

Furthermore, the rejection of Claim 1 exhibits an apparent confusion between an *entity* that is a provider of a service, such as an ISP (Internet Service Provider) or a NAP (Network Access Provider), and a *device* used by a provider in providing a service, such as a NAS (Network Access Server) or an HGS (Home Gateway Server). Claim 1 requires that the NAP be “of the NAS.” Claim 1 also requires the NAS comprise an HGS identifier, an IP address requester, and IP address relayer, and a memory. The Examiner’s rejection equates the NAP of Claim 1 with gateway 4d of Inoue ‘819 FIG. 20, and the ISP of Claim 1 with home network 1a of Inoue ‘819 FIG. 20. The Examiner’s rejection also equates the HGS identifier of Claim 1 with home agent 5 of Inoue ‘819 FIG. 20. As admitted by the Examiner, gateway 4d of Inoue ‘819 of other section network 1d in FIG. 20 is separate from home network 1a of Inoue ‘819 FIG. 20. However, Claim 1 requires the ISP (Internet Service Provider) to be separate from the NAP (Network Access Provider) of the NAS (Network Access Server). (emphasis added) Claim 1 does *not* require the ISP and the NAP to be in different *networks*.

For the above reasons, the U.S.C. § 103 Rejection of Claim 1 based on Perkins in view of Inoue ‘819 in view of Martin et al. is unsupported by the cited art of record. Thus, a *prima facie* case has not been established and the rejection must be withdrawn.

Independent Claims 21, 26 and 45

Claim 21 is a method claim corresponding to non-means-plus-function claim 1. Claim 26 is an *In re Beauregard* claim corresponding to method claim 21. Claim 45 is a means-plus-function apparatus claim corresponding to method claim 21. Claim 1 being allowable, Claims 21, 26, and 45 must be allowable for at least the same reasons as for Claim 1.

Dependent Claims 2, 13, 54, 55, 63-66, and 68-70

As to dependent claims 2, 13, 54, 55, 63-66, and 68-70, the argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable.

The Second 35 U.S.C. § 103 Rejection

Claims 3, 9, 23, 28, 47, 57 and 62 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Perkins in view of Inoue '819, further in view of Martin et al., and further in view of Holt et al.^{10 11} This rejection is respectfully traversed.

As to dependent claims 3, 9, 23, 28, 47, 57 and 62, the argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable.

¹⁰ U.S. Patent No. 6,070,192 to Holt et al.

¹¹ Office Action at ¶ 5.

The Third 35 U.S.C. § 103 Rejection

Claims 4, 24, and 48 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Perkins in view of Inoue '819, further in view of Holt et al., and further in view of Inoue '616.^{12 13} This rejection is respectfully traversed.

As to dependent claims 4, 24, and 48, the argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable.

The Fourth 35 U.S.C. § 103 Rejection

Claims 22, 27, 46 and 50 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Perkins in view of Inoue '819, further in view of Martin, further in view of Holt et al., and further in view of Reid et al.^{14 15} This rejection is respectfully traversed.

As to dependent claims 22, 27, 46, and 50, the argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable.

Claims 45-48, 58-60, 62, 66, and 71

Claims 45-48, 58-60, 62, 66, and 71 are means-plus-function apparatus claims. In support of the 35 U.S.C. § 103 rejections of Claims 45-48, 58-60, 62, 66, and 71, the Examiner refers to substantially the same portions of the cited references used in the rejection of claims which are not means-plus-function apparatus claims, specifically Claims 1, 2, 3, 4, 9, 13, 21, 22, 23, 24, 26, 27, 28, 50, 54, 55, 57, 63-65, and 67-70. The Examiner is referred to the U.S. Patent

¹² U.S. Patent No. 6,442,616 to Inoue et al.

¹³ Office Action at p. 7.

¹⁴ U.S. Patent No. 6,233,616 to Reid.

¹⁵ Office Action at p. 8.

and Trademark Office document entitled "Examination Guidelines For Claims Reciting A "Means or Step Plus Function" Limitation In Accordance With 35 U.S.C § 112, 6th Paragraph" ("Guidelines"), a copy of which is submitted herewith for the Examiner's convenience. The Guidelines state:

... Per our holding, the 'broadest reasonable interpretation' that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, *the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a Patentability determination ...*

... [The] examiner shall interpret a § 112, 6th paragraph "means or step plus function" limitation in a claim as limited to the corresponding structure, materials or acts described in the specification and equivalents thereof in acts accordance with the following guidelines.¹⁶

The Guidelines state further:

... if a prior art reference teaches identity of function to that specified in a claim, then under Donaldson an examiner carries the initial burden of proof for showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function.¹⁷

As Claims 45-48, 58-60, 62, 66, and 71 of the present application are means-plus-function claims and Claims 1, 2, 3, 4, 9, 13, 21, 22, 23, 24, 26, 27, 28, 50, 54, 55, 57, 63-65, and 67-70 of the instant application are non-means-plus-function claims, they cannot be said to be drawn to identical subject matter. Furthermore, the Examiner has not shown for each means-plus-function claim, that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function. Therefore, the Examiner has not established a *prima facie* case and the 35 U.S.C. § 103 rejection of Claims 45-48, 58-60, 62, 66, and 71 must be withdrawn.

¹⁶ "Examination Guidelines For Claims Reciting A "Means or Step Plus Function" Limitation In Accordance With 35 U.S.C § 112, 6th Paragraph," U.S. Patent and Trademark Office, <http://www.uspto.gov/web/offices/pac/dapp/pdf/exmgu.pdf>, p. 1. (emphasis added)

¹⁷ Guidelines at p. 3. (emphasis in original)

In response to the Applicant's arguments, the Examiner states:

Applicant argues, in substance, that the rejection does not delineate the structures needed for claim 48, a means-plus-function claim. The Examiner disagrees. Applicant recites similar limitations but in an apparatus form using means-plus-function language. The Examiner never stated the limitations were identical, rather similar in nature. Furthermore the passages cited of Perkins, '819, and Martin clearly show the structures of those particular apparatuses which meet the claimed limitations. Applicant has not pointed to any particular feature which is done only in a method of the cited references, therefore the cited references clearly demonstrate a structure to meet the claimed limitation.¹⁸

Again, the Applicants invite the Examiner to review the Examination Guidelines for Claims Reciting a "Means or Step Plus Function" Limitation in Accordance with 35 U.S.C. § 112, 6th Paragraph, by the U.S. Patent and Trademark Office. The Applicants have provided the Examiner with specific references to this Patent Office document, which clearly indicate what an Examiner must do to establish a *prima facie* case.

The Examiner incorrectly paraphrases the Applicant's argument by contending "Applicant argues, in substance, that the rejection does not delineate the structures needed for claim 48, a means-plus-function claim."¹⁹ Stated more simple terms, the Applicants respectfully submit the Examiner has not established a *prima facie* case with respect to means-plus-function apparatus claims 45-48, 58-60, 62, 66, and 71 because the Examiner has not shown for each means-plus-function claim, that the prior art structure is the same as or equivalent to the structure, described in the specification which has been identified as corresponding to the claimed means plus function. (emphasis added). The Applicants respectfully submit the Examiner cannot establish a *prima facie* case with respect to means-plus-function apparatus claims without referring to *any* structure in the specification, let alone structure in the specification corresponding to *each* claimed means plus function.

¹⁸ Office Action at ¶ 15.

¹⁹ Office Action at ¶ 15.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Conclusion

It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

The Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Please charge any additional required fee or credit any overpayment not otherwise paid or credited to our deposit account No. 50-1698.

Respectfully submitted,

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Dated: April 10, 2008


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Examination Guidelines For Claims
Reciting A "Means or Step Plus Function" Limitation
In Accordance With 35 U.S.C § 112, 6th Paragraph

The purpose of this memo is to set forth guidelines for the examination of § 112, 6th paragraph "means or step plus function" limitations in a claim. The court of Appeals for the Federal Circuit, in its en banc decision In re Donaldson 29 USPQ 2d 1845 (Fed. Cir. 1994), decided that a "means-or-step-plus-function" limitation should be interpreted in a manner different than patent examining practice has dictated for at least the last forty-two years. The Donaldson decision affects only the manner in which the scope of a "means or step plus function" limitation in accordance with § 112, 6th paragraph, is interpreted during examination. Donaldson does not directly affect the manner in which any other section of the patent statutes is interpreted or applied.

When making a determination of patentability under 35 U.S.C. § 102 or 103, past practice was to interpret a "means or step plus function" limitation by giving it the "broadest reasonable interpretation." Under the PTO's long-standing practice this meant interpreting such a limitation as reading on any prior art means or step which performed the function specified in the claim without regard for whether the prior art means or step was equivalent to the corresponding structure, material or acts described in the specification. However, in Donaldson the Federal Circuit stated that:

Per our holding, the "broadest reasonable interpretation" that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a Patentability determination. ¹

Thus, effective immediately, examiner shall interpret a § 112, 6th paragraph "means or step plus function" limitation in a claim as limited to the corresponding structure, materials or acts described in the specification and equivalents thereof in acts accordance with the following guidelines.

I. Identifying a § 112, 6th paragraph limitation

¹ In re Donaldson , 29 USPQ2d 1845, 1850 (Fed. Cir. 1994).

Although there is no magic language that must appear in a claim in order for it to fall within the scope of § 112, 6th paragraph, it must be clear that the element in the claim is set forth, at least in part, by the function it performs as opposed to the specific structure, material, or acts that perform the function. Limitations that fall within the scope of § 112, 6th paragraph include:

- (1) a jet driving device so constructed and located on the rotor as to drive the rotor . . . ² ["means" unnecessary]
- (2) "printing means" and "means for printing" would have the same connotations ³
- (3) force generating means adapted to provide . . . ⁴
- (4) call cost register means, including a digital display for providing a substantially instantaneous display for . . . ⁵
- (5) reducing the coefficient of friction of the resulting film⁶ [step plus function; "step" unnecessary], and
- (6) raising the Ph of the resultant pulp to about 5.0 to precipitate . . . ⁷

²The term "device" coupled with a function is a proper definition of structure in accordance with the last paragraph of § 112. The addition of the words "jet driving" to the term "device" merely renders the latter more definite and specific. Ex parte Stanley, 121 USPQ 621 (Bd. APP. 1958).

³Ex parte Klum, 159 USPQ 694 (Bd. App. 1967). However, the terms "plate" and "wing", as modifiers of the structureless term "means," specify no function to be performed, and do not fall under the last paragraph of § 112.

⁴De Graffenreid v. U.S., 20 Ct. Cl. 458, 16 USPQ2d 1321 (Ct. Cl. 1990)

⁵Intellicall Inc. v. Phonometrics Inc., 952 F.2d 1384, 21 USPQ2d 1383 (Fed. Cir. 1992).

⁶In re Roberts, 470 F.2d 1399, 176 USPQ 313 (CCPA 1973).

⁷Ex parte Zimmerley, 153 USPQ 367 (Bd. App. 1966)

In the event that it is unclear whether the claim limitation falls within the scope of §112, 6th paragraph, a rejection under §112, 2d paragraph may be appropriate.

Donaldson does not affect the holding of In re Hyatt, 708 F.2d 712, 218 USPQ 195 (Fed. Cir. 1983) to the effect that a single means claim does not comply with the enablement requirement of § 112, first paragraph. As Donaldson applies only to an interpretation of a limitation drafted to correspond to § 112, 6th paragraph, which by its terms is limited to "an element in a claim to a combination," it does not affect a limitation in a claim is not directed to a combination.

II. Examining Procedure

A. Scope of the Search and Identification of the Prior Art

As noted above, in Donaldson the Federal Circuit recognized that it is important to retain the principle that claim language should be given its broadest reasonable interpretation. This principle is important because it helps insure that the statutory presumption of validity attributed to each claim of an issued patent is warranted by the search and examination conducted by the examiner. It is also important from the standpoint that the scope of protection afforded by patents issued prior to Donaldson are not unnecessarily limited by the latest interpretation of this statutory provision. Finally, it is important from the standpoint of avoiding the necessity for a patent specification to become a catalogue of existing technology. ⁸

The Donaldson decision thus does not substantially alter examining practice and procedure relative to the scope of the search. Both before and after Donaldson, the application of a prior art reference to a means or step plus function limitation requires that the prior art element perform the identical function specified in the claim. However, if a prior art reference teaches identity of function to that specified in a claim, then under Donaldson an examiner carries the initial burden of proof for showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function.

⁸A patent specification need not teach, and preferably omits, what is well known in the art. Hybritech Inc. v. Monoclonal Antibodies. Inc., 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986).

The "means or step plus function" limitation should be interpreted in a manner consistent with the specification disclosure. If the specification defines what is meant by the limitation for the purposes of the claimed invention, the examiner should interpret the limitation as having the meaning. If no definition is provided, some judgment must be exercised in determining the scope of the limitation.

B. Making a prima facie case of equivalence

If the examiner finds that a prior art element performs the function specified in the claim, and is not excluded by any explicit definition provided in the specification for an equivalent, the examiner should infer from that finding that the prior art element is an equivalent, and should then conclude that the claimed limitation is anticipated by the prior art element. The burden then shifts to applicant⁹ to show that the element shown in the prior art is not an equivalent of the structure, material or acts disclosed in the application. In re Mulder, 716 F.2d 1542, 219 USPQ 189 (Fed. Cir. 1983). ¹⁰ The factors to be

⁹No further analysis of equivalents is required of the examiner until applicant disagrees with the examiner's conclusion, and provides reasons why the prior art element should not be considered an equivalent.

¹⁰See also, In re Walter, 618 F.2d at 768, 205 USPQ at 407-08, (a case treating § 112, 6th paragraph, in the context of a determination of statutory subject matter and noting "If the functionally-defined disclosed means and their equivalents are so broad that they encompass any and every means for performing the recited functions . . . the burden must be placed on the applicant to demonstrate that the claims are truly drawn to specific apparatus distinct from other apparatus capable of performing the identical functions"); In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (C.C.P.A. 1971) (a case in which the CCPA treated as improper a rejection under § 112, 2d paragraph, of functional language, but noted that "where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristics relied on"); and In re Fitzgerald 619 F.2d 67, 205 USPQ 594 (CCPA 1980) (a case indicating that the burden of proof can be shifted to the applicant to show that the subject matter of the prior art does not possess the characteristic relied on whether the rejection is based on inherency under § 102 or obviousness under § 103).

considered when determining whether the applicant has successfully met the burden of proving that the prior art element is not equivalent to the structure, material or acts described in the applicant's specification are discussed below.

However, even where the applicant has met that burden of proof and has shown that the prior art element is not equivalent to the structure, material or acts described in the applicant's specification, the examiner must still make a §103 analysis to determine if the claimed means or step plus function is obvious from the prior art to one of ordinary skill in the art. Thus, while a finding of non equivalence prevents a prior art element from anticipating a means or step plus function limitation in a claim, it does not prevent the prior art element from rendering the claim limitation obvious to one of ordinary skill in the art.

Because the exact scope of an "equivalent" may be uncertain, it would be appropriate to apply a §102/§103 rejection where the balance of the claim limitations are anticipated by the prior art relied on.¹¹ In addition, although it is normally the best practice to rely on only the best prior art references in rejecting a claim, alternative grounds of rejection may be appropriate where the prior art shows elements that are different from each other, and different from the specific structure, material or acts described in the specification, yet perform the function specified in the claim.

C. Determining whether an applicant has met the burden of providing non-equivalence after a *prima facie* case is made

If the applicant disagrees with the inference of equivalence drawn from a prior art reference, the applicant may provide reasons why the applicant believes the prior art element should not be considered an equivalent to the specific structure, material or acts disclosed in the specification. Such reasons may include, but are not limited to: 1) teachings in the specification that particular prior art is not equivalent, 2) teaching in the prior art reference itself that may tend to show non-equivalence, or 3) Rule 132 affidavit evidence of facts tending to show non-equivalence.

When the applicant relies on teachings in applicant's own specification, the examiner must make sure that the applicant is interpreting the "means or step plus function" limitation in the

¹¹A similar approach is authorized in the case of product-by--process claim because the exact identity of the claimed product or the prior art product cannot be determined by the examiner. In re Brown, 450 F.2d 531, 173 USPQ 685 (CCPA 1972).

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claim in a manner which is consistent with the disclosure in the specification. If the specification defines what is meant by "equivalents" to the disclosed embodiments for the purpose of the claimed means or step plus function, the examiner should interpret the limitation as having that meaning. If no definition is provided, some judgment must be exercised in determining the scope of "equivalents." Generally, an "equivalent" is interpreted as embracing more than the specific elements described in the specification for performing the specified function, ¹² but less than any element that performs the function specified in the claim.

The scope of equivalents embraced by a claim limitation is dependent on the interpretation of an "equivalent". The interpretation will vary depending on how the element is described in the supporting specification. The claim may or may not be limited to particular structure, material or acts (e.g. steps) as opposed to any and all structure, material or acts performing the claimed function, depending on how the specification treats that question.

If the disclosure is so broad as to encompass any and all structure, material or acts for performing the claimed function, the claims must be read accordingly when determining patentability. When this happens the limitation otherwise provided by "equivalents" ceases to be a limitation on the scope of the claim in that an equivalent would be any structure, material or act other than the ones described in the specification that perform the claimed function. For example, this situation will often be found in cases where (1) the claimed invention is a combination of elements, one or more of which are selected from elements that are old *per se*, or (2) apparatus claims are treated as indistinguishable from method claims. ¹³

¹²To interpret "means plus function" limitations as limited to a particular means set forth in the specification would nullify the provisions of § 112 requiring that the limitation shall be construed to cover the structure described in the specification and equivalents thereof. D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 1574, 225 USPQ 236, 238 (Fed. Cir. 1985).

¹³See, for example, In re Meyer, 688 F.2d 789, 215 USPQ 193 (1982); In re Abele, 618 F.2d at 768, 205 USPQ at 401-08; In re Walter, 618 F.2d 758, 767, 205 USPQ 397, 406-07 (C.C.P.A. 1980); In re Maucorps, 609 F.2d 481, 203 USPQ 812 (C.C.P.A. 1979); In re Johnson, 589 F.2d, 1070, 200 USPQ 199 (C.C.P.A. 1978); and In re Freeman, 573 F.2d at 1246, 197 USPQ at 471.

On the other end of the spectrum, the "equivalents" limitation as applied to a claim may also operate to constrict the claim scope to the point of covering virtually only the disclosed embodiments. This can happen in circumstances where the specification describes the invention only in the context of a specific structure, material or act that is used to perform the function specified in the claim.

When deciding whether an applicant has met the burden of proof with respect to showing non-equivalence of a prior art element that performs the claimed function, the following factors may be considered. First, unless an element performs the identical function specified in the claim, it cannot be a equivalent for the purpose of §112, 6th paragraph. 14

Second, while there is no litmus test for an "equivalent" that can be applied with absolute certainty and predictability, there are several indicia that are sufficient to support a conclusion that one element is or is not an "equivalent" of a different element in the context of § 112, 6th paragraph. Among the indicia that will support a conclusion that one element is or is not an equivalent of another are:

- 1) Whether the prior art element performs the function specified in the claim in substantially the same results as the corresponding element disclosed in the specification. 15
- 2) Whether a person of ordinary skill in the art would have recognized the interchangeability of the element shown in the prior art for the corresponding element disclosed in the specification. 16

¹⁴ Pennwalt Corp. v. Durand-Wayland Inc . 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987), cert. denied , 484 U.S. 961 (1988).

¹⁵ Lockheed Aircraft Corporation v. United States , 193 USPQ 449, 461 (Ct. Cl. 1977). Graver Tank concepts of equivalents are relevant to any "equivalents" determination. Polumbo v. Don-Joy Co. , 762 F.2d 696, 975, n. 4, 226 USPQ 5, 8-9, n. 4 (Fed. Cir. 1985).

¹⁶ Lockheed Aircraft Corporation v. United States , 193 USPQ 449, 461 (Ct. Cl. 1977). Data Line Corp. v. Micro Technologies. Inc ., 813 F.2d 1196, 1 USPQ2d 2052 (Fed. Cir. 1987).

- 3) Whether the prior art element is a structural equivalent of the corresponding element disclosed in the specification being examined.¹⁷ That is, the prior art element performs the function specified in the claim in substantially the same manner as the function is performed by the corresponding element described in the specification.
- 4) Whether the structure, material or acts disclosed in the specification represents an insubstantial change which adds nothing of significance to the prior art element. ¹⁸

These examples are not intended to be an exhaustive list of the indicia that would support a finding that one element is or is not an equivalent of another element for the purposes of § 112, 6th paragraph. A finding according to any of the above examples would represent a sufficient, but not the only possible, basis to support a conclusion that an element is or is not an equivalent. There could be other indicia that also would support the conclusion.

In determining whether arguments or Rule 132 evidence presented by an applicant are persuasive that the element shown in the prior art is not an equivalent, the examiner should consider and weigh as many of the above-indicated or other indicia as are presented by applicant, and should determine whether, on balance, the applicant has met the burden of proof to show non-equivalence. However, under no circumstance should an examiner accept as persuasive a bare statement or opinion that the element shown in the prior art is not an equivalent embraced by the claim limitation. Moreover, if an applicant argues that the "means" or "step" plus function language in a claim is limited to certain specific structural or additional functional characteristics (as opposed to "equivalents" thereof) where the specification does not describe the invention as being only those specific characteristics, the claim should not be allowed until the claim is amended to recite those specific structural or additional functional characteristics. ¹⁹

¹⁷ In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

¹⁸ Valmont Industries Inc. v. Reinke Manufacturing Co. Inc., 983 F.2d 1039, 25 USPQ2d 1451 (Fed. Cir. 1993).

¹⁹ Otherwise, a claim could be allowed having broad functional language which in reality is limited to only the specific structure or steps disclosed in the specification. This would be

Finally, as in the past, applicant has the opportunity during proceedings before the Office to amend the claims so that the claimed invention meets all the statutory criteria for patentability. An applicant may choose to amend the claim by further limiting the function so that there is no longer identity of function with that taught by the prior art element, or the applicant may choose to replace the claimed means plus function limitation with specific structure material or acts that are not described in the prior art.

D. Related issues under Section 112 first or second paragraphs

The Donaldson decision may create some uncertainty as to what applicant regards as the invention. If this issue arises, it should be addressed in a rejection under §112, 2d paragraph. While § 112, 6th paragraph permits a particular form of claim limitation, it can not be read as creating an exception either to the description, enablement or best mode requirements of the 1st paragraph or the definiteness requirement of the 2d paragraph of § 112. In re Knowlton, 481 F.2d 1357, 178 USPQ 486 (CCPA 1973). If a "means or step plus function" limitation recited in a claim is not supported by corresponding structure, material or-acts in the specification disclosure, the following rejections should be considered: (1) under § 112, 1st paragraph, as not being supported by an enabling disclosure because the person skilled in the art would not know how to make and use the invention without a description of elements to perform the function; ²⁰ (2) under § 112, 2d paragraph, as being indefinite because the element or step is not defined in the specification by corresponding structure, material or acts; (3) under §§ 102 or 103 where the prior art anticipates or renders obvious the claimed subject matter including the means or step that performs the function specified in the claim. (Theory: since there is no corresponding structure, etc. in the specification to limit the means or step plus function limitation, an equivalent is any element that performs the specified function).

contrary to public policy of granting patents which provide adequate notice to the public as to a claim's true scope.

²⁰The description of an apparatus with block diagrams describing the function, but not the structure, of the apparatus is not fatal under the enablement requirement of § 112, 1st paragraph, as long as the structure is conventional and can be determined without an undue amount of experimentation. In re Ghiron, 442 F. 2d 985, 991,169 USPQ 723, 727 (CCPA 1971)

III. Avoid confusion with the doctrine of equivalents

An "equivalent" for the purposes of § 112, 6th paragraph, should not be confused with the doctrine of equivalents. The doctrine of equivalents, most often associated with Graver Tank & Mfg. Co. v. Linde Air Products 339 U.S. 605, 85 USPQ 328 (1950), is sometimes applied to do equity among the parties before the court in an infringement action involving an issued patent. The doctrine typically involves a three-part inquiry - whether an accused device performs substantially the same function, in substantially the same way, to obtain substantially the same result as the claimed invention.

Section § 112, 6th paragraph limits the scope of the broad language of "means or step plus function" limitations, in a claim to a combination, to the structures, materials and acts described in the specification and equivalents thereof. The doctrine of equivalents equitable expands exclusive patent rights beyond the literal scope of a claim.²¹ Accordingly, decisions involving the doctrine of equivalents should not unduly influence a determination under § 112, 6th paragraph during ex parte examination.

²¹Valmont Industries Inc., Reinke Manufacturing Co., Ind., 983 F.2d 1039, 1043, 1044, 25 USPQ2d 1451, 1455 (Fed. Cir. 1993).